REMARKS

Claims 1, 4, 6-9, 11, 12, 14-21, 25-29, 32-38, 41-49, 52, 53 and 55-59 are presently under consideration. Claims 1, 6-9, 11, 12, 15-21, 32, 34, 35, 38, 45, 46, 49, 52, 53, 55 and 56-59 have been amended as shown on pp. 2-13 of the Reply. Claims 2, 3, 5, 10, 13, 22-24, 30, 31, 39, 40, 50-51 and 54 remained cancelled.

Applicants' representative submits that the amendments to the claims require no new search as the amendments are directed to subject matter considered by the Examiner and the basis for the 35 U.S.C. § 112, first paragraph rejections in the June 2009 Office Action and the current Office Action, or the amendments are to correct minor informalities. Accordingly, Applicants' representative respectfully requests that the amendments be entered and considered during the instant stage of prosecution.

Favorable reconsideration of the subject patent application is respectfully requested in view of the comments and amendments herein.

I. Allowabilility of Claims 21, 25-29, 32-37, 49, 52, 53 and 55-59

Applicants' representative thanks Examiner Dean for his notification that each of claims 21, 25-29, 32-37, 49, 52, 53 and 55-59 recites allowable subject matter.

II. Rejection of Claims 1 and 38 Under 35 U.S.C §112

Claims 1 and 38 stand rejected under 35 U.S.C §112, first paragraph, as failing to comply with the enablement requirement. In particular, the Office Action alleges that claims 1 and 38 contain subject matter that was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most closely connected, to make and/or use the invention. Specifically, page three of the Office Action states in the Response to Arguments section and in the section detailing the rejection under 35 U.S.C. § 112:

> Applicants' refer to paragraph 0085 of the specification of the instant application where it says 'continually monitor or repeatedly sample the SNR and **begin adjusting the data rate whenever a change in the SNR reaches a particular level**, which may be during a transmission of a particular message'. This indicates that the identifying and adjusting steps occur during the transmission of a message and **not that the identifying and adjusting steps are performed concurrently**. … It appears . . . that the adjustment of

> the data rate at the terminal is at least partly based on the feedback signal from the gateway. . . . . (Emphasis in original).

While Applicants' representative respectively disagrees, to advance the state of prosecution, amended independent claims 1 and 38 now each recite: "*wherein the identifying the change in the return link signal and the adjusting the data rate are performed* ***during a transmission of and a reception of the message***" (emphasis added).

Support for the amendment can be found, at least, at paragraphs [0081] - [0085] of the specification of the instant application, which states:

> FIGS. 2 through 5 illustrate flowcharts for several embodiments. FIG. 2 illustrates one embodiment at a high level, including just two elements. In a step or processing stage 210, the illustrated embodiment identifies a change in the signal-to-noise ratio (SNR) for a return link. The SNR is measured at a gateway, and the return link comprises a CDMA channel. **In a step or at a processing point 220, the embodiment adjusts a data rate for a message based on the change identified in the SNR.** Changing the data rate does not change, or does not significantly change, an interference relationship among multiple simultaneous users of the CDMA return link. In FIG. 3, a feedback signal is received from a gateway in a step or stage 310. The feedback signal indicates either a value for the SNR level as measured at the gateway, or a value for the change in the SNR level as measured at the gateway. … In alternative embodiments, the data rate many be adjusted less often. For instance, rather than checking the SNR for every message, one embodiment may only check the SNR once every N messages. Certain embodiments may adjust the data rate more often. For instance, one embodiment may **continually monitor** or repeatedly sample **the SNR and begin adjusting** the data rate whenever a change in the SNR reaches a particular level, which may be **during a transmission of a particular message**. (Emphasis added).

Based on the foregoing, Applicants' representative respectfully submits that amended independent claims 1 and 38 overcome the rejection under 35 U.S.C. § 112, first paragraph. Therefore, Applicants' representative requests that the rejection be withdrawn and that amended independent claims 1 and 38 be allowed.

Dependent claims 4, 6-9, 11, 12 and 14-20 depend from and therefore incorporate the features of amended independent claim 1 while dependent claims 41-48 depend from and

therefore incorporate the features of amended independent claim 38. Accordingly, dependent claims 4, 6-9, 11, 12, 14-20 and 41-48 overcome the rejection under 35 U.S.C. § 112, first paragraph for at least the same reasons as those provided for amended independent claims 1 and 38.

III. Patentability of Claims 1, 4, 6-9, 11, 12, 14-20, 38 and 41-48

Additionally, to also advance the state of prosecution, Applicants' representative submits that claims 1, 4, 6-9, 11, 12, 14-20, 38 and 41-48 are patentable over the cited art of record. Specifically, Applicants' representative submits that claims 1, 4, 6-9, 11, 12, 14-20, 38 and 41-48 are patentable over the combination of Patterson *et al.* (US 2003/0050008) in view of Lapaille *et al.* (US 6,539,214) and in further view of Gopalakrishnan *et al.* (US 2002/0110101), which served as a basis for a 35 U.S.C. § 103 rejection of independent claims 1 and 38 (as previously presented) in the Office Action dated March 24, 2009. Neither Patterson *et al.* nor Lapaille *et al.* nor Gopalakrishnan *et al.*, alone nor in combination, teach or suggest the features recited in claims 1, 4, 6-9, 11, 12, 14-20, 38 and 41-48.

Amended independent claim 1 is directed to a method. In particular, amended independent claim 1 recites:

> *A method comprising: employing a processor executing computer-readable instructions to perform the following acts: identifying a change in a return link signal quality at a gateway for a return link from a terminal communicatively coupled to the gateway through a satellite, the return link being shared by a plurality of terminals having an interference relationship, wherein the identifying the change in the return link signal quality comprises: identifying a change in a signal-to-noise ratio for the return link from the terminal; and interpreting the change in the signal-to-noise ratio as indicating the change in the return link signal quality; . . . adjusting a data rate, at the terminal, based, in part, on a determination made at the terminal to adjust the data rate to correct for degradation of the return link signal quality, for a message sent from the terminal through the return link based on the change in the return link signal quality . . . wherein the identifying the change in the return link signal and the adjusting the data rate are performed during a transmission of and a reception of* ***the message****. (Emphasis added).*

Patterson *et al.* discloses a scalable satellite data communications system that provides global broadband services to earth-fixed cells. In the Abstract and paragraphs [0008] – [0013] and [0095] – [0100], Patterson *et al.* discloses that the system includes a user terminal segment and a gateway segment in the earth-fixed cells, and a space segment that includes satellites. The satellites are configured to provide communication of data between the user terminals in the user terminal segment and their associated gateway terminals in the gateway segment. One or more user terminals simultaneously transmit over a reverse link to their respective gateways via a satellite. By contrast, only the gateway transmits over the forward link, and transmits to the user terminals via the satellite.

The **gateway, not the user terminals**, monitors the reverse link conditions and adjusts the bandwidth allocated to the user terminals, and/or the data rate afforded to the user terminals, on the reverse link. The gateway controls each by allocating bandwidth and time slots to the user terminals for transmission according to the conditions being experienced on the reverse link. For example, in ideal environmental conditions, the full bandwidth and a high data rate may be allocated for the reverse link. By contrast, in poor environmental conditions, only a portion of the bandwidth may be allocated for transmission, and the data rate by which users can transmit may be decreased. Patterson *et al.* elaborates on the manner in which the gateway monitors and controls the bandwidth and data rate in the following excerpt from paragraph [0101] of the disclosure:

> For MF-TDMA operation, the reverse link channel may be subdivided in both the frequency and time domain into resource allocation units. The **gateway uses a medium access control (MAC) layer protocol to allocate these channel resources (bandwidth and time slots)** among user terminals on demand. The user terminals and gateway may use the MAC-layer protocol to negotiate the appropriate power level, modulation order, FEC coding rate, symbol rate, and time-slot assignments on the reverse link. The **gateway allocates resources** among user terminals based on the capacity requested by each user terminal, the available link capacity, and the waveforms that can be supported by the user terminal under the current link conditions. (Emphasis added).

Thus, identifying any change in the reverse link is performed by the gateway, not the user terminal. Further, **the user terminal**, which is the transmitter on the reverse link, does not adjust its data rate until after the gateway adjusts its data rate. Adjusting the data rate by the gateway

and the user terminal are performed over more than one time slot and correspondingly, over **more than message**, as Patterson *et al.* describes as follows. The user terminal transmits a **first** message in a **first** time slot, and the gateway receives the **first** message. The gateway **then** adjusts the data rate **after receipt of the first message**, and transmits data rate information to the user terminal. The user terminal then adjusts its data rate during a subsequent time slot during which a **second** message is transmitted. Accordingly, Patterson *et al.* discloses that the transmitter and receiver operations to adjust the data rate occur during the transmission of **different** messages, **not a single message**. Therefore, Patterson does not disclose identifying and adjusting during transmission of and reception of a **single** message, which is recited in the feature: "*wherein the identifying the change in the return link signal and the adjusting the data rate are performed during a transmission of and a reception of* ***the message***" (emphasis added) of amended independent claim 1. For at least this reason, Patterson *et al.* does not teach or suggest the features recited in amended independent claim 1. Neither Lapaille *et al.* nor Gopalakrishnan *et al.* cure these deficiencies.

Lapaille *et al.* merely discloses a method of estimating a signal-to-noise ratio of a signal received at a terminal. The disclosure details a method for adjusting transmission power of the terminal based on the estimated signal-to-noise ratio.

Gopalakrishnan *et al.* merely discloses a method for adjusting the data rate in a system by varying modulation and coding. The data rate is adjusted based on the power and code space levels in a cell of interest.

Accordingly, neither Lapaille *et al.* nor Gopalakrishnan *et al.*, alone nor in combination with Patterson *et al.*, teach or suggest the features recited in amended independent claim 1. Applicants' representative therefore respectfully requests allowance of amended independent claim 1.

Amended independent claim 38 is directed to an apparatus. In particular, amended independent claim 38 recites:

> *An apparatus comprising: a comparator configured to identify a change in a return link signal quality at a gateway for a return link from a terminal communicatively coupled to the gateway through a satellite, the return link being shared by a plurality of terminals having an interference relationship, wherein identifying the change*

> *in the return link signal quality comprises: identifying a change in a signal-to-noise ratio for the return link from the terminal; and interpreting the change in the signal-to-noise ratio as indicating the change in the return link signal quality; and a data rate generator configured to adjust a data rate, at the terminal, based, in part, on a determination made at the terminal to adjust the data rate to correct for degradation of the return link signal quality, for a message sent from the terminal through the return link based on the change in the return link signal quality without changing link power levels and the interference relationship among the plurality of terminals, wherein the data rate generator is configured to receive a feedback signal, at a terminal feedback input, from the gateway, the feedback signal indicating at least one of the signal-to-noise ratio for the return link as measured at the gateway or the change in the signal-to-noise ratio for the return link as measured at the gateway, wherein the identifying the change in the return link signal and the adjusting the data rate are performed during a transmission of and a reception of* ***the message***. (Emphasis added).

For similar reasons to those provided above for amended independent claim 1, neither Patterson *et al.* nor Lapaille *et al.* nor Gopalakrishnan *et al.*, alone nor in combination, teach or suggest the features recited in amended independent claim 38. Therefore, Applicants' representative respectfully requests that amended independent claim 38 be allowed.

Dependent claims 4, 6-9, 11, 12 and 14-20 depend from and therefore incorporate the features of amended independent claim 1 while dependent claims 41-48 depend from and therefore incorporate the features of amended independent claim 38. Accordingly, dependent claims 4, 6-9, 11, 12, 14-20 and 41-48 are allowable for at least the same reasons as those provided for amended independent claims 1 and 38.

CONCLUSION

The present application is believed to be in condition for allowance in view of the above comments and amendments. A prompt action to such end is earnestly solicited.

In the event any fees are due in connection with this document, the Commissioner is authorized to charge those fees to Deposit Account No. 50-1063 [QUALP802USA].

Should the Examiner believe a telephone interview would be helpful to expedite favorable prosecution, the Examiner is invited to contact Applicants' representative at the telephone number below.

Respectfully submitted,

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